



# ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

## SUBSONIC ENGINES

ENGINE IDENTIFICATION: PW1428GH-JM BYPASS RATIO: 12.1  
 UNIQUE ID NUMBER: 01P22PW176 PRESSURE RATIO ( $\pi_{00}$ ): 33.3  
 COMBUSTOR: TALON X, Block-D  
 ENGINE TYPE: TF RATED THRUST ( $F_{00}$ ) (kN): 132.4

### REGULATORY DATA

| CHARACTERISTIC VALUE:                        | HC  | CO   | NO <sub>x</sub> | SMOKE NUMBER |
|--|-----|------|-----------------|--------------|
| D <sub>p</sub> /F <sub>00</sub> (g/kN) or SN | 0.8 | 32.8 | 34.9            | 10.2         |
| AS % OF ORIGINAL LIMIT                       | 4.2 | 27.8 | 31.2            | 47.3         |
| AS % OF CAEP/2 LIMIT (NO <sub>x</sub> )      |     |      | 39.0            |              |
| AS % OF CAEP/4 LIMIT (NO <sub>x</sub> )      |     |      | 44.2            |              |
| AS % OF CAEP/6 LIMIT (NO <sub>x</sub> )      |     |      | 49.2            |              |
| AS % OF CAEP/8 LIMIT (NO <sub>x</sub> )      |     |      | 56.2            |              |

For non-volatile particulate matter (nvPM) emissions, please refer to the ICAO Engine nvPM Emissions Data Sheet.

### DATA STATUS

- PRE-REGULATION  
 x CERTIFICATION  
 - REVISED (SEE REMARKS)

### TEST ENGINE STATUS

- NEWLY MANUFACTURED ENGINES  
 x DEDICATED ENGINES TO PRODUCTION STANDARD  
 - OTHER (SEE REMARKS)

### EMISSIONS STATUS

x DATA CORRECTED TO REFERENCE  
 (ANNEX 16 VOLUME II)

### CURRENT ENGINE STATUS

(IN PRODUCTION, IN SERVICE UNLESS OTHERWISE NOTED)  
 - OUT OF PRODUCTION (DATE: - )  
 - OUT OF SERVICE (DATE: - )

### MEASURED DATA

| MODE   | POWER SETTING (%F <sub>00</sub> ) | TIME (minutes) | FUEL FLOW (kg/s) | EMISSIONS INDICES (g/kg) |       |                 | SMOKE NUMBER |
|--|-----------------------------------|----------------|------------------|--------------------------|-------|-----------------|--------------|
|  |                                   |                |                  | HC                       | CO    | NO <sub>x</sub> |              |
| TAKE-OFF   | 100                               | 0.7            | 0.870            | 0.07                     | 0.25  | 23.01           | 7.9          |
| CLIMB OUT  | 85                                | 2.2            | 0.720            | 0.07                     | 0.32  | 18.37           | 5.9          |
| APPROACH   | 30                                | 4.0            | 0.250            | 0.06                     | 4.05  | 10.69           | 0.3          |
| IDLE   | 7                                 | 26.0           | 0.090            | 0.41                     | 23.21 | 5.42            | 0.7          |
| LTO TOTAL FUEL (kg) or EMISSIONS (g)                               |                                   |                | 332              | 70                       | 3541  | 3989            | -            |
| NUMBER OF ENGINES  |                                   |                |                  | 1                        | 1     | 1               | 1            |
| NUMBER OF TESTS  |                                   |                |                  | 4                        | 4     | 4               | 4            |
| AVERAGE D <sub>p</sub> /F <sub>00</sub> (g/kN) or AVERAGE SN (MAX) |                                   |                |                  | 0.5                      | 26.7  | 30.1            | 7.9          |
| SIGMA (D <sub>p</sub> /F <sub>00</sub> in g/kN, or SN)             |                                   |                |                  |                          |       |                 |              |
| RANGE (D <sub>p</sub> /F <sub>00</sub> in g/kN, or SN)             |                                   |                |                  |                          |       |                 |              |

### ACCESSORY LOADS

POWER EXTRACTION 0 (kW) AT - POWER SETTINGS  
 STAGE BLEED 0 (% CORE FLOW) AT - POWER SETTINGS

### ATMOSPHERIC CONDITIONS

|                      |                 |
|----------------------|-----------------|
| BAROMETER (kPa)      | 101.5-102.2     |
| TEMPERATURE (K)      | 279.6-300.8     |
| ABS HUMIDITY (kg/kg) | 0.00358-0.01201 |

### FUEL

|          |           |
|----------|-----------|
| SPEC     | Jet A     |
| H/C      | 1.91-1.93 |
| AROM (%) | 16.3-16.8 |

MANUFACTURER: Pratt & Whitney  
 TEST ORGANIZATION: Pratt & Whitney  
 TEST LOCATION: W. Palm Beach, FL  
 TEST DATES: 18/01/2020-21/01/2020

### NO<sub>x</sub> REGULATION PARAGRAPH

|   |                   |
|---|-------------------|
|   | 2.3.2 c) (CAEP/4) |
|   | 2.3.2 d) (CAEP/6) |
| x | 2.3.2 e) (CAEP/8) |

### REMARKS

- Data from certification report PWA-12091
- 1 engine tested
- TALON-X, Block-D combustor
- Certification in accordance with ICAO Annex 16 Vol. II. 4th Edition, Part III, Chapter 2.

Compliance with Fuel Venting requirements: x ('x' if complies, 'PR' if pre-regulation, '-' if information is not available)